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Minnesota Pollution Control Agency

INFORMATION TRANSMITTAL SLIP

DATE: April 15, 1997

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SUBJECT: Explanation of Significant Differences for OU5

FOR: ☑ Information ☐ Review and Comment

☐ As You Requested Other: _____

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Bud Gregg

APR 1997

Explanation of Significant Differences in the Approved Remedy for Operable Unit 5, Northern Area of the Platteville Aquifer at the Reilly Tar and Chemical Company Superfund Site in St. Louis Park, Minnesota

Introduction:

The following explanation of significant differences includes information on changes in the approved remedy for Operable Unit 5 (OU5), Northern Area of the Platteville Aquifer at the Reilly Tar and Chemical Company site (Site) in St. Louis Park, Minnesota. The Minnesota Pollution Control Agency (MPCA) and the U.S. Environmental Protection Agency (EPA) selected the approved remedy for OU5.

Under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. 9617, Section 117(c), if after a remedial action plan is adopted, any remedial action is taken, any enforcement action is taken, or any settlement or consent decree is entered into, "and such action, settlement, or decree differs in any significant respects from the final plan, the President or the State shall publish an explanation of significant differences and the reasons such changes were made."

Summary of Site History, Contamination Problems and Selected Remedies:

Between 1917 and 1972, Reilly Industries (Reilly) operated a coal tar distillation and wood preserving plant, known as the Republic Creosoting Company. The bulk of the plant's operations took place in the south central and southeastern portions of the Site. These areas contained the coal tar distillation still, wood-treating building, and the aboveground and underground storage tanks (for creosote, tars, pitch and fuel oils). It was reported in 1938 that 16,000 gallons of tar could be processed per day.

From about 1917 to 1939, wastes containing coal tar and its distillation by-products were discharged, as a matter of disposal practice, over land into a ditch that ran the length of the Site and then emptied into a peat bog south of the Site. A thick accumulation of tar was present on the sides and bottom of the ditch. The waste was milky, and contained floating oil, emulsified oil and settlable tar. The road ditch between Walker Street and the plant contained a tar accumulation of about six inches. Oily water extended over the surface of the bog and much of the vegetation and peat was covered by tar. A 1938 report by L.L. Kemps, Assistant Public Health Engineer, noted that 6,000 gallons per week of effluent (coal tar distillates and wood treating waste) were discharged into the bog with observed flow rates of 150-200 gallons per minute.

In 1940-41, wastewater treatment was installed, but the effluent continued to be discharged into the bog. The values of both phenols and oil and grease in the discharge water varied typically from 100 to 1000 micrograms per liter (ug/l). This discharge into the bog continued for the duration of the facility's operation.

Chemical contaminants may have also been released from a waste pond located in the main coal tar distilling/wood preserving area in the southeast corner of the Site. Soil contamination with coal tar and creosote also occurred throughout the Site during its operational history via drips from leaky piping, precipitation wash off from stockpiled treated lumber, and spills of process materials.

The creosote and waste products resulting from the processes polluted the surface of the Site and four aquifers. The deep aquifers were polluted by direct migration of contaminants through multi-aquifer wells such as W23. Consequently, many private wells and eventually municipal supplies became contaminated with polynuclear aromatic hydrocarbons (PAHs). In 1979, 28 multi-aquifer wells were abandoned or reconstructed to prevent the spread of contamination. During the period from 1978 through 1981, PAH contamination caused the shutdown of six municipal wells in St. Louis Park and one well in the neighboring city of Hopkins.

In 1972, the City of St. Louis Park purchased the Site from Reilly, and the plant was dismantled and removed. The Site was proposed for addition to the National Priorities List (NPL) in October 1981 and was listed as final on the NPL in September 1983. A Consent Decree/Remedial Action Plan (CD/RAP) for site remediation was signed in September 1986, and entered by the U.S. District Court for the District of Minnesota in U.S. vs. Reilly Tar (Case No.4-80-469). The parties to the CD/RAP are the MPCA, EPA, the City of St. Louis Park and Reilly. The CD/RAP also includes an agreement between Reilly and the City of St. Louis Park which specifies each party's responsibilities for site remediation.

The CD/RAP specified a number of remedial actions to be conducted at the Site. These remedial actions contained in the CD/RAP have been implemented by the agencies by dividing the Site into five operable units. Records of Decision (RODs) were issued for each of the operable units between 1984 and 1995. The RODs consist of a number of remedial actions including treatment of contaminated municipal well water and pumping actions to control the spread of contaminated groundwater in the various aquifers underlying the site.

The ROD for OU5 was issued in June 1995. The OU5 ROD addressed groundwater contamination in the Northern Area of the Platteville Aquifer. The Platteville Aquifer is a shallow aquifer underlying the Drift Aquifer beneath the Site. The Northern Area of the Platteville Aquifer is immediately to the east of the Site. The details of the remedy are listed below:

- The interception and containment of contaminants by use of a gradient control well (Well 440) which will prevent the further spread of contaminated ground water in the Northern Area of the Platteville Aquifer.

- The discharge from the new well is to be initially routed to the sanitary sewer for treatment at the Metropolitan Council Environmental Services (MCES) wastewater treatment plant to remove contaminants from the collected ground water.

- Continued water level and water quality monitoring of the ground water contaminant plume during remediation activities.

The ROD anticipated that within three to five years, the water quality of the ground water will be improved sufficiently to meet National Pollutant Discharge Elimination System limits. This would allow the city to route the ground water pumped from the gradient control well to a storm sewer for eventual discharge to Minnehaha Creek. If necessary, an on-site treatment facility will be built to treat the ground water discharged from the gradient control well prior to the discharge to surface water.

Description of the Significant Difference in the Cleanup Plan and the Basis for that Difference:

The City of St. Louis Park evaluated the results of the Northern Area Drift and Platteville Aquifers Remedial Investigation and historical ground water level information from piezometers and monitoring wells to determine the best location for a successful gradient control well for the Platteville Aquifer in the Northern Area. The Platteville Aquifer was found to be an aquifer with low groundwater transmissivity, which made the selection of remedy alternatives that were evaluated in the feasibility study and subsequent ROD very difficult. Based on the City's evaluation, which was approved by the Agencies in the ROD, the gradient control well, W440, was located in an area of the city where there was the greatest likelihood of obtaining adequate ground water yields to capture the contamination in the Platteville Aquifer in the Northern Area.

Well W440 was installed and tested in July 1996. During the installation of the well, observations of the soil and bedrock conditions indicated that the well might not yield sufficient water. Subsequent pumping tests confirmed that the well would not provide sufficient drawdown to establish a significant capture zone.

Since this location was considered the best potential location for a gradient control well in the Northern Area, the MPCA has determined that it will not be possible to locate an effective Platteville Aquifer gradient control well in the Northern Area. The MPCA recommends that no further effort be made to establish a Platteville Aquifer gradient control well in the Northern Area. Instead, the MPCA supports the use of well W434, which is located immediately south of the Northern Area, as a substitute gradient control well. Well W434 was originally installed to capture any contamination before such contamination entered the buried valley southeast of the site. However, Well 434 should

be able to provide for both capture of contaminants, as well as reasonable gradient control in the Platteville Aquifer.

Summary of MPCA and EPA Comments on Proposed Changes

The MPCA has approved the City's request to use Well 434 to provide gradient control to contain contamination from the Northern Area of the Platteville Aquifer.
The low groundwater transmissivity in the Northern Area of the Platteville Aquifer precludes the installation of a gradient control well that could effectively contain the contaminant plume. While Well 434 is downgradient of the Northern Area it appears to be the most viable alternative to provide gradient control to contain the contaminant plume.

The EPA joins in the Record of Decision and in this Explanation of Significant Differences.

Fulfillment of Statutory Requirements

Considering the new information that has been developed and the changes that have been made to the selected remedy, the MPCA believes, and EPA agrees, that the remedy remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, is consistent with the National Contingency Plan, and is cost effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site.

Public Participation Activities

The complete administrative record (including this Explanation of Significant Differences) is available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the MPCA,

520 Lafayette Road North, St. Paul, Minnesota 55155-4194 by contacting Miriam Horneff, Project Manager, at (612) 296-7228.

Wm. E. Muno

William E. Muno
Director, Superfund Division
EPA, Region V

3/26/97
Date

Gerald E. Wegwert

for Peder A. Larson
MPCA Commissioner

4/11/97
Date